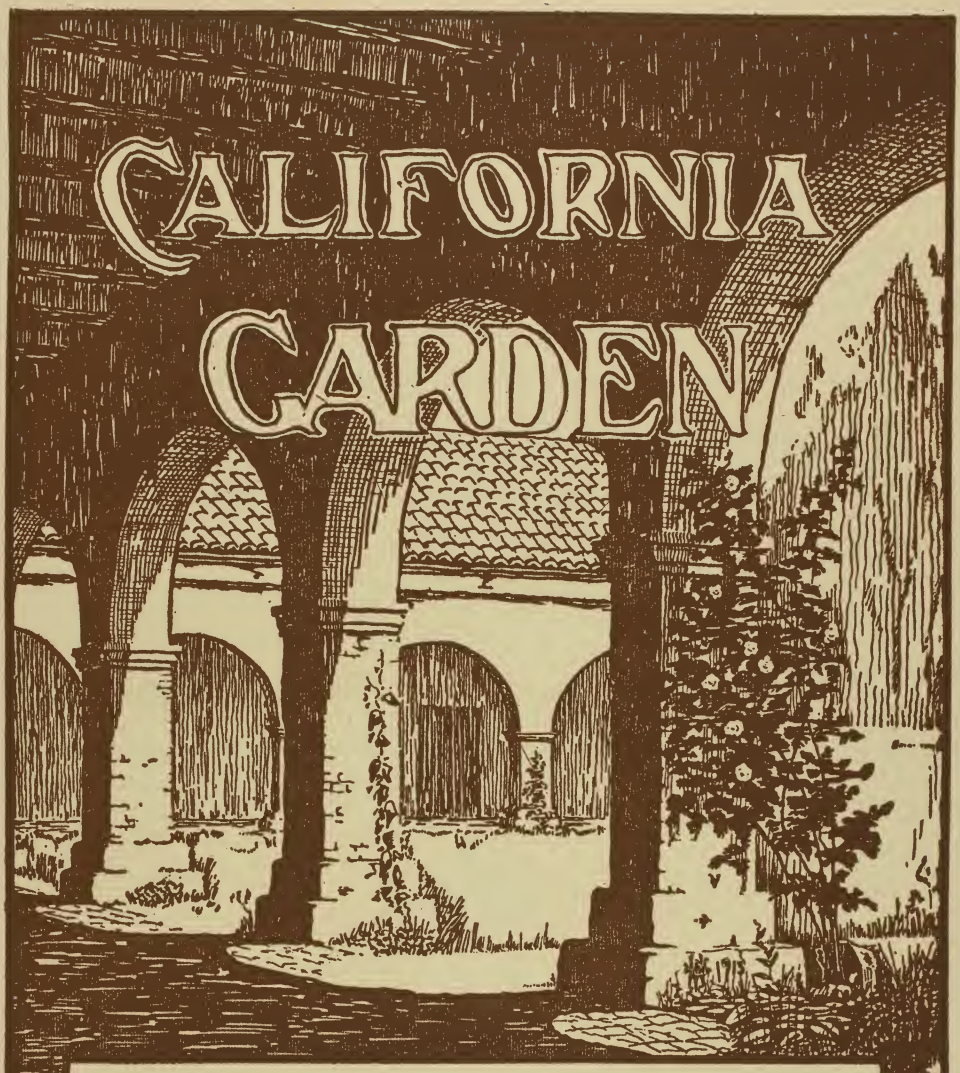


IN THIS NUMBER

PREMIUM LIST OF FALL FLOWER SHOW

FIRST AID FOR THE ASTER

REPORT OF ANNUAL MEETING

JULY, 1931 TEN CENTS

PLANT NOW, PANSY, GIANT MASTADON and NON PLUS ULTRA, per packet 25c.
CINERARIA, HARRIS' PRIZE, per packet 50c.

PEAT MULL, use it now to hold the moisture, 10 pound sack 75c
Per bale $3.50.
LEAF MOULD, per large sack 75c.

913 Seventh St.
Between Broadway and E Streets

HARRIS
SEED COMPANY

840 Market St.
Between Eighth and Ninth Streets

Rosecroft - Begonia - Gardens
SILVERGATE AVENUE, POINT LOMA, CALIFORNIA
-- NOW --
TUBEROUS BEGONIAS
SINGLES, DOUBLES, LLOYDII, NARCISSIFLORA ETC.
LARGER ASSORTMENT AND LOWER PRICES.
ALFRED D. ROBINSON ANNIE C. ROBINSON
— Proprietors —

The magazine—"California Garden," a practical local guide published monthly for 20 years. Subscription $1.00 per year.

The official organ of the San Diego Floral Association, now in its 21st year of continuous activities.

All interested in garden matters and civic beautification are invited to join. Dues $1.50 per year. Magazine and Membership combined $2.00 per year. P. O. Box 323, San Diego.

The California Garden

Published Monthly by the San Diego Floral Association
One Dollar per Year, Ten Cents per Copy

Vol. 23 SAN DIEGO, CALIFORNIA, JULY, 1931 No. 1

TWENTY-FIFTH ANNUAL FALL SHOW
SATURDAY AND SUNDAY, AUGUST 22-23, 1931
MAIN PLAZA, BALBOA PARK
Opening Saturday, 2 P. M.
Admission, 25 Cents

Section A—Dahlias—Amateurs

Class

* 1. Best Collection of Dahlias, one of each variety. Prize Competitive Cup to be won for three years.
2. Best Three Blooms Cactus, one or more varieties.
3. Best Three Blooms Semi-Cactus, one or more varieties.
4. Best Three Blooms Decorative, one or more varieties.
5. Best Three Blooms Miniature Decorative, one or more varieties.
6. Best Three Blooms Fancy or Variegated, one or more varieties.
7. Best Three Blooms Peony, one or more varieties.
8. Best Three Blooms Pompon, one or more varieties.
9. Best Three Blooms Show, one or more varieties.
10. Best Three Blooms Semi-double or Duplex, one or more varieties.
11. Best Three Blooms, Single, one or more varieties.

* 12. Best Collection Cactus Dahlia, one bloom each variety.
13. Best Collection Semi-Cactus, one bloom each variety.
14. Best Collection Decorative, one bloom each variety.
15. Best Collection Peony, one bloom each variety.
15A. Best Collection "Charm" Dahlias (miniature dahlias of peony-flowered type) three blooms each variety.
16. Best Collection Pompons, three blooms each variety.
17. Best Collection Show, one bloom each variety.
18. Best Collection Semi-double or Duplex, three blooms each variety.
19. Best Collection Single, three blooms each variety.
19. Best Collection Single, three blooms each variety.

* 20. Most Artistic Basket of Dahlias, in Show, use of other foliage permitted.

* 21. Most Artistic Arrangement Vase or Bowl of Dahlias.

* Dahlia Sweepstakes San Diego Floral Association Silver Medal.

Section B—Dahlias
Open to All Competition

* 22. Best Keeping Dahlia, excepting pompon and show varieties, judged at 2 P. M. last day of show. No preservative treatment allowed.
23. Best Established Three-year-old Seedling.
24. Best Collection Unregistered Seedlings.
25. Best 1930 Seedling.
26. Best 1931 Seedling.

* 27. One Best Bloom Exhibited at Show, stem and foliage considered.
28. Most Artistic Basket of Pompons in Show, use of other foliage permitted.

* 29. Dahlia Cup for best six blooms, one bloom each of six classes, one bloom only in each vase. No Pompons.

* 30. Best Six Blooms, six varieties, California productions. Names attached. Harris Seed Company Cup.

Section C—Dahlias—Professionals

* 31. Best General Display Arranged for Effect, potted plants and foliage allowed for embellishment.
32. Best Display of Dahlias, not less than six varieties.
33. Best Six Blooms, any variety.
34. Best Six Blooms Cactus, one or more varieties.
35. Best Six Blooms Semi-Cactus, one or more varieties.
36. Best Six Blooms Collarettes, one or more varieties.
37. Best Six Blooms Decorative, one or more varieties.

Patronize the Garden Advertisers.

38. Best Six Blooms of Fancy Variegated, one or more varieties.
39. Best Six Blooms Peony, one or more varieties.
40. Best Six Blooms Pompons, one or more varieties.
41. Best Six Blooms Show, one or more varieties.
42. Best Six Blooms Semi-double or Duplex, one or more varieties.
43. Best Collection Cactus Dahlias, one bloom each variety.
44. Best Collection Semi-Cactus, one bloom each variety.
45. Best Collection Collarettes, one bloom each variety.
46. Best Collection Decorative, one bloom each variety.
47. Best Collection Fancy or Variegated, one bloom each variety.
48. Best Collection Peony Flowered, one bloom each variety.
48A. Best Collection "Charm" Dahlias (miniature dahlia of peony-flowered type) three blooms each variety.
49. Best Collection Pompons, three blooms each variety.
50. Best Collection Show, one bloom each variety.
51. Best Collection Semi-double or Duplex, three blooms each.
52. Best Collection Single Dahlias, three blooms each variety.
53. Best Collection of California Dahlias, twelve blooms, twelve varieties.
* 54. Best Largest Collection Registered Varieties. Names attached.

Section D—Zinnias—Amateurs

* 55. Best Collection of Zinnias.
56. Best Three Blooms Zinnias, Red or Red Shades.
57. Best Three Blooms Zinnias, White or white shades.
58. Best Three Blooms Zinnias, Pink or Pink Shades.
59. Best Three Blooms Zinnias, Orange or Orange Shades.
60. Best Three Blooms Zinnias, Yellow or Yellow Shades.
61. Best Three Blooms Zinnias, Lavender or Lavender Shades.
62. Best Three Blooms, any other color.
63. Best Three Blooms, picotte type.
64. Best Twenty-five Blooms Zinnias, small Mexican.
65. Best Collection Lilliput Zinnias.
66. Best Arranged Vase or Bowl of Zinnias, greenery allowed.
67. Best Arranged Basket of Zinnias, greenery allowed.
* Zinnia Swepestakes. San Diego Floral Association Bronze Medal.

Section E—General—Amateurs

68. Best Collection Asters, double type.
69. Best Collection Asters, single type.
70. Best Arranged Vase, Bowl or Dish of Asters, any variety.
71. Best Arranged Basket of Asters, any variety, greenery allowed.
* 72. Best Arranged Basket of Flowers.
* 73. Best Arranged Vase, Bowl or Dish of Flowers.
74. Best Arranged Basket of Gladiolas.
* 75. Best Collection of Bulbous Flowers, not less than six varieties.
Mary Mathews Competitive Cup to be won three times.
76. Best Display of African Marigolds.
77. Best Display of French Marigolds.
78. Best Display of Single Petunias.
79. Best Display of Double Petunias.
* 80. Best Collection of Perennials, not less than six varieties.
* 81. Best Collection of Annual, not less than six varieties.
82. Best Display of Any Other Flower Not Otherwise Classified.
83. Best Exhibit of Potted Fibrous tall growing Begonias.
84. Best Exhibit of Potted Fibrous low growing Begonias.
85. Best One Specimen Potted Fibrous Begonia.
86. Best Collection of Potted Tuberous Begonias.
87. Best One Specimen Potted Tuberous Begonia.
* 88. Best Collection Rex Begonias grown in pots or other receptacle.
89. Best Collection of Ferns.
90. Best Decorative House Plant.
91. Best Flowering Vine (flowers and foliage).
92. Best Collection of Cut Sprays Flowering Trees or Shrubs.
93. Best Collection Coleus.
94. Best New Flower or Plant not before exhibited.
95. Best Exhibit of Water Lilies.

Section F—General
Open to All Competition

* 96. Still life flower pictures in shadow boxes.
96A. Best French Bouquet.
* 97. Best Collection of Begonias.
98. Best Specimen Rex Begonia, San Diego Seedling, grown in pot or other receptacle.
* 99. Best General Exhibit of Begonias grown in pots or boxes.
100. Best Specimen Maidenhair Fern.
101. Best Specimen Fern other than Maidenhair.

102. Best Collection Cut Ferns, three leaves of kind.
103. Best Fern Hanging Basket.
104. Best Hanging Basket other than fern.
105. Best Exhibit of summer flowering lilies.
106. Best Display of Gladiolas.
*107. Best Collection of Potted Fuchsias.
108. Best Display of Cacti.
109. Best Display of Succulents.
110. Best Display of a Small Rock Garden.
111. Best Dish of Growing Succulents and Cacti.

Section G—General—Professionals

*112. Best Collection of Decorative Plants and Flowers, arranged for effect in space 100 square feet.
113. Best Collection of Twenty-five Shrubs for garden use.
114. Best Three Trees suitable for lawn.
115. Best Ten Vines.
116. Best Specimen Sword Fern.
117. Best Specimen Fern Other than Sword Fern.
118. Best Decorative Plant for House.
119. Best New Plant or Flower not exhibited before.
120. Best Collection of Potted Petunias.
121. Best Collection of Zinnias.
122. Best Collection of Asters.
*123. Best Arranged Basket of Flowers.
124. Best Arranged Basket of Gladiolas.
125. Best Exhibit of summer flowering lilies.
126. Best Exhibit of Water Lilies.
*127. Best Civic or Service Display of Plants and Flowers; Quality and Arrangement to be main points.
128. Best Exhibit of Garden Pottery (limit 20 pieces).

RULES

1. All exhibits must be in place and properly entered by 11 a. m. of the first day of the Show so that judging may be completed and awards made before opening. All vases, baskets, etc., belonging to exhibitors, must be called for Monday morning, not later than 11:00 o'clock. **No exhibitor will be allowed to be present while judging is going on.**
2. All pot plants must have been in the possession of the exhibitor at least three months; all other flowers and plants except collected wild flowers must have been grown by the exhibitor, except where used for table decoration.
3. The committee on awards is authorized to give suitable award for any meritorious exhibit not included in classes named above.
4. **Exhibits can be entered in one class only.**
5. Vases are loaned without charge for cut flowers in the competitive classes.
6. Exhibits are, from the commencement of the Show, under the jurisdiction of the Show officials, and no exhibit shall be removed during or after the close of the Show without the authority of the officials in charge.
7. Entries will not be considered by judges unless meritorious.
8. All Exhibits must be labeled with the correct names of the plants on white cards 2x3 inches, which will be furnished without charge. Names of exhibitors in competitive classes positively must not appear on exhibits until after awards have been made. (Entries in class 127 excepted from this rule.)
9. In classes where a given number of blooms is specified, any excess or deficiency of count shall constitute cause for disqualification.
10. All Exhibitors must place their names on containers for identification.
11. All exhibits are staged in conformity with the rules of the Show. Deviation from the above rules may constitute cause for disqualification.
12. The Floral Association invites exhibits, however small, if meritorious. Exhibits of single specimens of flowers or plants will be duly considered.
13. Baskets and vases will be judged for arrangement and quality of blooms.
14. No professional or no amateur directly or indirectly connected with a professional shall enter an amateur class.

* Indicates cup or other trophy in class so indicated.

No Fee Is Charged for Making Entries in This Show

An Amateur is one who does not engage in horticulture or gardening for profit and who is not directly or indirectly connected with one who engages in horticulture or gardening for profit.

A Display is an arrangement for quality and artistic effect.

A Collection is a variety of kinds brought together.

Dahlias will be judged according to the points recommended by American Dahlia Society, which are:

Color	20
Stem and Foliage	25
Substance	15
Form	20
Size	20
	100

Patronize the Garden Advertisers.

FLOWER SHOW CHAIRMEN

Dahlias—Sections A, B and C—Mrs. George Gardner, phone Bayview 0346-M.

Zinnias—Section D and Class 121—Mr. and Mrs. H. Gibbs, phone Hillcrest 1550-J.

Asters, Bulbous Flowers, Petunias, Marigolds, Collection of Annuals, Collection of Perennials, Classes 68, 69, 70, 71, 75, 76, 77, 78, 79, 80, 81, 82, 122—Mrs. W. H. Hutchings, 2238 University Ave. or phone Hillcrest 1550-J.

Flowering Vine, Flowering Trees or Shrubs, Coleus, New Flower or Plant, Water Lilies, Summer Flowering Lilies, Gladioli, Potted Fuchsias, Cacti, Succulents, Rock Gardens —Classes 91, 92, 93, 94, 95, 105, 106, 107, 108, 109, 110, 111, 125, 126—Mrs. E. W. S. Delacour, phone Hillcrest 5061 or Main 3594-R.

Lathhouse subjects—Amateur and Professional—Classes 83, 84, 85, 86, 87, 88, 89, 90, 97, 98, 99, 100, 101, 102, 103. 104, 116, 117 118, 119—Mrs. Paul Tuttle, phone Hillcrest 6642.

Baskets, Bowls, Vases and Dishes—Classes 72, 73, 74, 96A, 123, 124—Mrs. Robert Morrison, phone Hillcrest 0890-W.

Still life subjects in shadow boxes—Class 96—phone Hillcrest 1550-J.

Professionals—Mr. Walter Birch, phone Main 0842.

Floor Plans—Mr. John Morley.

Nomenclature—Miss Mary Matthews.

Clerking—Mrs. Elsie Case.

Gate Receipts—Mr. John Bakkers.

General Secretary—Mr. Sidney Hill, phone Main 0605.

Information on Entries—Miss Alice Jones, phone Hillcrest 1482-J.

General Chairman—Mrs. Mary A. Greer, phone Hillcrest 1550-J.

FIRST AID FOR THE ASTER

How Horticultural Science and Practice Are Working to Restore This Flower to Its Former Status of Vigor, Usefulness and Popularity

Part of a Paper Read by Miss Elizabeth Bodger, El Monte, Cal., before the Southern Seedsmen's Convention at Paducah, Ky., in June.

The production of novelties is perhaps the most interesting part of the seed grower's work, and the importance of keeping old varieties true is self evident, but sometimes the grower has another and equally important task thrust upon him: He must give first aid to a strain or variety that is deteriorating and losing its usefulness. A case in point is the Aster, once one of the most popular of garden and florist flowers, but lately come into great disfavor, because it has become so hard to grow to the flowering stage.

Any grower, professional or amateur, can testify that one of the Aster's most serious and severe afflictions is the fusarium wilt disease. Anyone familiar with Asters is also, to his sorrow, familiar with the characteristic symptoms of the wilt—the leaves turning yellowish, then brown, streaks of brown rot appearing in the stems, and finally the wilting of the entire plant.

Aster Wilt and How to Beat It

Aster wilt is caused by a specific parasitic fungus, Fusarium conglutinans var. callistephi, commonly carried on Aster seed and on inert matter with the seed. Once introduced, it persists indefinitely in the soil, living on organic matter therein, and making it "Aster sick." It is because of this ability of the fungus to live on in the soil, even though Asters may not be planted there again for several years, that growers are unable to raise a crop on soil which has once supported Asters. All varieties of Asters are susceptible, and the wilt is almost equally severe on clay, sand and loam soils.

Those who have studied the problem have remarked on the finding, among badly infested plantings, of certain few isolated plants surviving the disease. The possibility then presented itself of developing a strain of resistant stock from the seed of these few healthy plants. This thought especially appealed to Prof. L. R. Jones of the University of Wisconsin, who had done considerable work of a similar nature with disease resistance in Cabbage. Starting in the Spring of 1925 with a few strains of American Branching in various colors, Heart of France, and one or two colors in American Beauty and Royal, Prof. Jones and his coworker, Dr. Riker, have since made consistent and encouraging progress in the establishment of wilt resistance in Asters.

Shortly after starting his trials, Prof. Jones visited our cultures to investigate and compare with his own findings, the disease that was wiping out Aster crop. This he identified as the fusarium wilt disease, suggesting that we cooperate with him in striving for wilt resistant strains. We readily agreed and started at once to make selections of healthy plants. With these for a start, along with some of Prof. Jones' strains which he very kindly released to us, our work on wilt resistance was begun. Each year we have increased the number of lines under test, each resistant selection being planted alongside a check row of non-resistant, or ordinary seed, until this year

there are over a thousand lines in the 15 acres devoted to these trials which are very badly infested with the wilt fungus. No attempt is made to disinfect the seed or land in any way; in fact, the more disease spores present, the better pleased we are—for those plants that survive will then be more truly resistant than otherwise.

Disease Control Treatments

While to us this seems the most satisfactory procedure, there are others who are specialists in Asters who are following different lines of combating the disease. I have been in correspondence with some of these men, who have been very obliging in passing on to us information containing the details of their various methods, which, we, in turn, shall be glad to pass on to any one interested.

These workers have applied the principles of disinfection to seed and soil, as a means of escaping the wilt. W. H. Dildine of the Vick Seed Co., Rochester, N. Y., has had great success in the use of Semesan. He says: * * * "In my judgment the program of Semesan treatment will wipe out a large part of the losses growers are likely to incur."

H. B. Williams of Baldwinsville, N. Y., on the other hand, has been remarkably successful through the use of Mercuric chloride (corrosive sublimate) solution. On his place disinfection of seed, soil, implements—everything that comes in contact with the plants—is very strictly enforced, and healthy plants are the result. Working in cooperation with the New York State Agricultural Experimental Station at Geneva, he has assembled very interesting data covering ten years of successful work in combating the wilt disease.

We, however, are fully convinced that the only sure, economical and permanent control of the wilt is through resistant strains. Where naturally resistant plants appear within a given variety, the problem is comparatively simple, being merely a case of following up the progeny and making selections. If, however, it is impossible to find even one plant of a variety surviving, a more difficult and tedious program must be followed. Flowers from the desired variety must be crossed with flowers of some other variety which has proved resistant, and then selections made among the resulting progeny. The chances of obtaining the desired type, color and resistance all in one plant are decidedly small, so a great number of crosses must be made.

W. M. Fleming of the Dominion of Canada Experimental Farms at Summerland, B. C., has done some very helpful research in this line. In working on color inheritance in Asters, he finds a three color series, a purple series dominant to a red, which is in turn dominant to the white or albino. Within each series occurs a number of shades, the relation of which has not been fully determined. In the purple series, dark purple is dominant to mauve, and mauve to lavender. In the red series, red is dominant to pink, and dark pink to shell or light pink.

It is noted that with certain shades almost on the border line between the reds and blues, the color of the flower is influenced by the acid reaction of the soil. This would suggest that the various colors may be forms of the Aster pigment influenced in some way by the acidity of the cell sap. It may be that the increase in acidity of the cell sap in the red varieties may give the resistance of that class, or it may possibly mean that some other chemical substance, closely associated with the red pigment, is present, to give the resistance. This has been found to be the case in Onion smudge resistance work, where the marked resistance of colored types of onions to smudge is due to the presence, in the outer scales of certain toxic substances closely associated with the pigment compounds or identical with them.

In both Prof. Jones' work and in our own trials in El Monte, it has been found that resistance is more readily secured with red than with other colors. Lavenders and rose shades also show resistant qualities. If these findings prove sound, the way is pointed toward the ultimate solution of the problem, through breeding strains from these resistant red or purple stocks.

Disease and the Insect

Besides the fusarium wilt, Asters are afflicted with various other serious diseases, of an entomological rather than a pathological nature. Schuyler Arnold of the Joseph Harris Co. of Coldwater, N. Y., reports that the main trouble with Asters in his locality is caused by the tarnished plant bug (Lygus pratensis Linn.) and by the leaf-hopper (Cicadula sexnotata). As both are sucking insects, arsenical insecticides are useless and control through contact poisons is made difficult by the very active nature of the insects. The tarnished plant bug produces a deformation of the plant, resulting in poor, if any, growth. The serious and destructive work of the leaf-hopper is the transmission of the virus, causing the Asters yellows disease, this being the only way in which this dread disease is transmitted. To control Aster yellows, therefore, the Aster plants must be protected against these "viruliferous" leaf hoppers. Toward this end, a method has been devised by Prof. Jones at Madison and used with success by George J. Ball of West Chicago, Ill.—the use of cheesecloth covered cages or houses over the plots.—Florists' Exchange.

Patronize the Garden Advertisers.

The California Garden

Editor
Silas B. Osborn
Associate Editors
John Bakkers
Walter S. Merrill

PUBLISHED MONTHLY BY
The San Diego Floral Association
P. O. Box 323 San Diego, Cal.

Main Office, San Diego, California

OFFICERS AND DIRECTORS

Mrs. Mary A. Greer, President
Mr. Walter Birch, Vice-President
Mr. John Bakkers, Treasurer
Miss Alice Halliday
Mrs. Robt. Morrison
Mr. Robt. R. McLean
Miss K. O. Sessions
A. S. Hill, Secretary
Phone, Main 0605

Member
California Rose Society, American Gladioli Society, American Iris Society
California Fuchsia Society

Entered as second-class matter December 8, 1910, at the Post office at Point Loma, California, under the Act of March 3, 1879.

California Garden is on the list of publications authorized by the San Diego Retail Merchants Association.

MONTHLY ADVERTISING RATES

One Page	$15.00	Half Page,	$7.50
Quarter Page	3.75	Eighth Page	2.00

Advertising Copy should be in by the 1st of each Month

Subscription to Magazine, $1.00 per year; Membership $1.50 per year; Magazine and Membership combined $2.00 per year.

McKELVEY'S
Elite Printing Co. 851 2nd. St., San Diego

REPORT OF ANNUAL MEETING

The annual meeting of the San Diego Floral Association was held in the Floral Building in Balboa Park, Tuesday, June 16th, 1931, at 7:30 o'clock. The meeting was called to order by the president, Mrs. Mary A. Greer, who stated that seven directors for the ensuing year would be chosen at that meeting and reports received from officers.

Mr. A. S. Hill, secretary, then submitted the secretary's report covering activities of the Association during the year just closed; and in the absence of the treasurer, read the financial report showing receipts and disbursements for the year. Upon motion seconded and carried, the reports were received and ordered filed. (Editor's Note: Both of these reports appeared in full in the June number of the "Garden.")

The chairman reported that much to the regret of the officers and members of the San Diego Floral Association, Mr. Silas B. Osborn, who has so faithfully and efficiently edited the "California Garden" during the past year, or so, feels that he can no longer carry on the work. The new editor will be announced soon.

The chair also stated that Mr. Geo. W. Marston would be the speaker for the regular meeting, July 21st. Mr. Marston will speak on trees.

It was announced by the chair that plans are well under way for the succulent garden to be established in Balboa Park as a tribute to Miss Kate O. Sessions, who has done and is still doing so much for the association. Ground for this garden has been set aside by the Board of Park Commissioners.

The chair then called on Mrs. Tuttle, chairman of the nominating committee, who presented the following nominations for directors for the ensuing year: Mary A. Greer, Walter Birch, John Bakkers, Alice Halliday, Mrs. Robert Morrison, Robert R. McLean, Kate O. Sessions. There being no further nominations, upon motion seconded and carried, nominations were closed, and the secretary was instructed to cast the ballot of the meeting for the persons nominated. The chairman having been informed by the secretary that the ballot had been cast, declared that the following directors for the ensuing year had been elected.

Mr. Birch addressed the meeting in praise of Mrs. Greer and the wonderful work she has accomplished as president of the association. His remarks met with hearty and prolonged applause from the meeting. Mrs. Greer very feelingly responded to the compliment; but being prompted by modesty, she closed the incident by introducing Mrs. Erskine J. Campbell as the speaker of the evening.

Mr. and Mrs. Campbell have recently returned from a tour of Africa; and Mrs. Campbell gave a most pleasing account of their travels through this interesting country. It is a special gift to be able to relate so faithfully, as did Mrs. Campbell, what she called the "high spots" of their trip; and her talk was but further evidence of the high standard set by the program committee in its choice of speakers for these monthly meetings. Mrs. Campbell was given a vote of thanks for her interesting talk.

Refreshments were then served by the House Committee, and the meeting closed.

A. S. Hill.

A SURPRISE TO MISS SESSIONS

In her lathhouse Miss Sessions has been anticipating some show of the climbing Areca palm, a native of tropical America, Southern Mexico. The fruits when ripening proved to be straight rather than round, so as that is the character of **Chaemadorea Wendlandiana** the Floral Association has another name to add to its list; not that it is ever overburdened with technicalities.—F. G. W.

NEW COMMITTEES ANNOUNCED

Mrs. Greer announces the following committees for the new fiscal year:

House Committee: Miss Alice Haliday, Mrs. Robert Morrison, Miss Laura Brewster, Mrs. Alfred Mitchell, Miss Etta Schwieder, Mrs. Oscar Quarforth, Mrs. R. J. Pickard, Mrs. John Nuttall.

Program Committee: Mrs. Robert Morrison, Mrs. Paul Tuttle, Mr. Walter Birch.

Miss K. O. Sessions Planting Committee: Mr. Roland Hoyt, Mr. R. R. McLean, Mrs. M. A. Greer.

Garden Contest Committee: Mr. G. H. Middlebrook, Mrs. John Burnham, Mr. John Snyder.

Fall Flower Show Committee: See local daily press.

The San Diego Floral Association expresses appreciation for the following additions to the association library by the family of the late Miss Mildred McLemore of Escondido, California:

Gardening in California, Sidney B. Mitchell.

The American Rose Annual, 1927-1929, American Rose Society.

Iris in the Little Garden, Ella Porter McKinney.

Manual of Gardening, L. H. Bailey.

Field Book, American Wild Flowers, Schuyler Mathews.

California Garden Flowers, Wickson.

The Little Garden, Mrs. Frances King.

Putnam's Garden Handbook, Mae Savell Croy.

MEETING OF FLORAL ASSOCIATION DIRECTORS

The meeting of the Floral Association Directors was held at the Chamber of Commerce on July 8, 1931.

The results of the election of officers were:

Mrs. M. A. Greer nominated and elected unanimously as President.

Mr. Walter Birch nominated and elected unanimously as Vice President.

Mr. Sidney Hill nominated and elected as Secretary.

Editor of the Garden: Pending the election of an Editor of the Garden Magazine, it was moved and seconded that Mr. S. B. Osborn be requested to edit the July issue. Carried.

THE EUCALYPTUS IN CALIFORNIA

In reply to a recent inquiry regarding the time of the introduction of the various species of eucalyptus trees in California, I can but say that the question must be looked at from two angles both concerned with the content of water in the soil where the varying species of eucalyptus are planted.

For the drainage of the Great Basin the blue gum was planted in Northern California because it had an ecology of its own in draining the Sacramento Valley in the seasons of overflow and sudden freshets. It also proved suitable for purifying the air from malaria. The matter of shade trees for the arid roadways destitute of the southern mountain trees necessitated where the earth is sunbaked and much of the open ground in the chaparral is very rocky, a species that grows as rapidly, the sugar gum, Eucalyptus corynocalyx growing in dry soil as in humid.

In mesa lands of the south, Eucalyptus rostrata, red gum for some reason is said to be a counterpart in Southern California to the blue gum of the north and supplanting it in conditions in which the blue gum had been a failure. It was by testing for a long season of years that the cause of failure was determined.

As early as 1850 in the pioneer period a few garden species had been brought in as garden ornamentals only, by travelers at a time when experimentation had not been thought of. In order to try out the worth of species for introduction, state lands were appropriated for the planting of thousands of eucalyptus trees for purposes of experiment only in the highways. When it was found that the requirements of different species varied, the variations of soil conditions being of most importance, the value of the tree as a commercial success was insured for general planting throughout the arid and semi-arid southwest.

Commercially the Southern Pacific Railroad made the original selection of blue gum as possessing the strongest grain of wood for railroad building in the swamp lands from California to El Paso on account of its tolerance of water in stagnant soil. Throughout the state were the originals of the selection of the species that would stand the many varying exposures of canyons at altitudes throughout the state.

Only after years of experiment were these selections made. The San Jose blue gum was the result of reinforcement of previous plantings of failures in the Australian Blue Gum in American industries.

The oldest trees in the state belong to the General Bidwell estate at Chico. At one time these were considered frost resistant, but in the winter of 1913 suffered a severe blight and were immediately cut to the ground. In two years the old trees showed their vitality by sending out stump sprouts and it was much regretted that they had been cut down. Time would have restored them.

In general, the introduction of eucalyptus was made on the Elwood Cooper ranch of Santa

(Continued on Page 13)

Patronize the Garden Advertisers.

HOW CALIFORNIA BEAUTIFIES HER HIGHWAYS

The Associated Press on May 19 reported that "a force of 1000 men, members of State highway and county road crews, today were tearing down illegal signboards along California highways." This cleanup campaign, under the direction of the chairman of the State Highway Committee of the State Chamber of Commerce, was scheduled to last two weeks and was expected to result in the removal and destruction of between 75,000 and 100,000 signs erected without permission of land owners or placed on State land.

This radical and vigorous action is one step in a campaign of highway beautification that should interest and gratify all plant lovers and conservationists. We believe that nurserymen, in California and elsewhere, may find valuable suggestions and inspiration to initiate or co-operate with other similar programs in the following extracts from an article on "Beautifying California Highways," by Frank A. Tetley, a member of the State Highway Commission, that appeared in a recent issue of the United States Daily:

In making our State highways beautiful, and at the same time practical as to maintenance expense, there are certain definite principles and policies that appeal to me as fundamental. These are:

First, our planting should be characteristic of California's plant life. We should use as far as is possible, trees, shrubs, vines and flowers that are native to and symbolic of the State.

All highways on which trees are to be planted and maintained by the State of California should be at least 60 feet wide, and all main arteries should be 100 feet wide; this because traffic is becoming greater and greater, and it is certainly a great loss that on account of the narrow highways, to have all trees on at least one side of the highway destroyed at some future time so that the highway can be widened.

Second, great care and study should be made of the varieties of trees to be planted in the different locations. It would be foolhardy to plant trees that would make a success in a desert country in a district that has moisture or elevation. * * *

Care should also be exercised in expenditures for maintenance of trees.

Third, the method or mode of the planting should fit the individual need of the particular section of highway where the planting is to be made. * * *

Fourth, the planting along a highway should be so varied that the danger of monotony is avoided. The task is one that demands the combined co-operation of the landscape architect and the highway official. * * *

Here is a basis upon which State and county can proceed to build a more beautiful highway system. The problem of highway beautifications, however, is not one of planting alone.

The billboard question presents a difficult phase of this problem. Whatever the individual opinion of the reader may be, relative to billboard advertising, certainly there can be no great difference of opinion as to the need for eliminating any ill-placed signs from areas fronting on highways.

This statement is made not alone with regard to billboards erected by the larger out-of-door advertising concerns, but is also directed against the motley and discordant array of signs with which many local merchants litter up the landscape along the highways leading into their cities. These signs have no advertising value to the merchant, but serve only to create the impression upon travel that the particular town in which these merchants may live holds beauty in little regard.

Again, a highway lined with ugly, untidily planned and unattractive buildings can never be a beautiful highway. Nor is there any excuse for any such structures here, for in California the flowers, the shrubs and the trees of the whole world are available for planting. Beauty here need not cost money. It can be literally had without money and without price. It need only be desired.

"Florists' Exchange."

WEATHER DURING AUGUST

By Dean Blake, Meteorologist

As in most cities with marine climates, the temperature lag is very pronounced in San Diego, and our warmest weather does not occur until the middle of August. Along the coast the temperature is never high, and days with a maximum above 80 degrees are not at all common. Only thrice has the thermometer exceeded the 90 degree mark at the station of the Weather Bureau in San Diego. Nights are uniformly cool and comfortable.

Except for an occasional few drops of rain, the final effort of spent thunderstorms that sometimes form over the mountains to the east, precipitation is lacking. The average for the month is only .09 inches, and this average is largely due to two Augusts when storms from the south brought in abnormally heavy rains, namely 1.36 inches and 1.95 inches. In 81 years, appreciable rainfall has occurred in 34 Augusts.

Prevailing winds are from the ocean and the humidity is high. Morning and night cloudiness continues, with the sun dissipating the high fog usually between 9 and 11 a. m. High winds are unknown. Withal the month is pleasant, and with the high sensible temperature makes it an ideal one for outdoor activities along the beaches.

Patronize the Garden Advertisers.

The Garden

By Walter Birch

As the summer advances and your plants are either blooming or approaching that stage, it is increasingly important to see that conditions of soil and moisture are right, also that you are taking care of the fertilizing, and above all not neglecting the various garden pests.

Irrigate as much as possible by furrow, or if you sprinkle avoid the hot sunshine and sprinkle long enough to wet to a good depth, followed when dry enough by a good cultivation to a fine surface. Much of our soil is so deficient in humus that it is a difficult matter to retain moisture. To help rectify this condition, of late years there is a great quantity of peat mull or Humus being shipped in from Europe, and it is being used extensively in Southern California. This peat is a wonderful moisture holder, and when worked into the surface of the soil around your plants, solves the moisture problem and very much improves the texture of the soil. Peat supplemented with a little bone meal or other good commercial fertilizer will help things along very much, and you will be surprised how much easier it is to keep the proper degree of moisture around your plants.

There are so many new preparations for insect pests being put on the market of late, that it is rather a problem for the amateur to know which ones are the most satisfactory. For snails and slugs End-O-Pest has been many times proved to be reliable. This preparation is already mixed and all you have to do is sprinkle it on the ground around your plants and moisten it a little with your hose sprinkler at time of putting it down, and every evening for four or five days.

For aphis and many leaf eating insects Derrisol, a non-poisonous spray is good, also Evergreen Spray, non-poisonous and will not injure the blossoms.

For red spider, mealy bug and scale insects use Volck, or mix with it Arsenate of Lead, Bordeaux Mixture and Black Leaf "40" and you will have a combination spray that will control scale insects, leaf eating insects and aphis.

For ants a very simple remedy is London Purple, an inexpensive powder. Just dust it on the ant hills, keeping the water off them for a few days and they will disappear.

Continue to set out plants of Asters, Ageratum, Begonias, Carnations, Marigold, Petunia, Salvia, Zinnias and others. Get a few potted plants of Primula Obconica for the lath house, porch or shady location; they will fully repay you.

If you want early pansies and strong Cineraria plants for early setting, plant the seeds now.

The Mastadon type of Pansy and Non Plus Ultra strain are very fine, and Cineraris, Harris' Prize is as good as anything you can procure, and has been very successfully raised around San Diego for several years. Of course, these seeds should be raised in flats in a lath house or other properly protected location.

Prepare your ground now for early blooming sweet peas for later sowing. Dig a trench about two feet deep and throw in well rotted manure to the depth of eight or ten inches putting soil on top of this, and then some more manure well mixed with soil. Keep well wet down and spade thoroughly in two or three weeks' time, gradually working down to a fine surface and planting seed at the end of August or early in September. If you do not use the trench method, at least manure heavily and spade deeply a month or six weeks before seeding.

July is a capital time to set out one or two of those beautiful climbers Bougainvillea, Crimson Lake; they enjoy warm weather conditions for transplanting.

VARIEGATED FOLIAGE

There is an old superstition that white flowered and white leaved plants are not so robust as the colored ones, but we cannot see that facts will confirm this, and whether true or not, variegated foliage is certainly beautiful, adding almost as much to the beauty of your garden as flowers. And now since Fuchsias have a front seat we are discovering they also have many variations in leaves.

Sunset is most showy—the leaves being pink and green intermixed with white, the new growth always more highly colored, while later in the summer the coloring will consist usually in a small white border. It is a beautiful little dwarf. Gracilis Variegata throws out highly colored red leaves in spring which later turn to a peculiar marking of grey-green in rather

indistinct spots while the ribs remain red. One variety of Black Prince has a decided grey leaf with bloom same as the old Prince. Avalanch has very marked yellow green leaves with double blooms of most rich shades in red and blue, a very distinct variety. Henry Henckle has bronzy red leaves, while some of its new types have different shades of this color, which in all of them has at times a chocolate appearance, according to season and growing conditions. This is one of the few Fuchsias which does not object to considerable sun. Coreifolia has handsome leaves of a light green with a velvety sheen. Then there is a variety of Speciosa which has a very brilliant splashing of red which deepens largely on feed given them, and Fuchsias seem more affected than any others. So be generous with meals and blooms and leaves will return pay in size and rich coloring; but do not forget the spraying for red spider and thrip, and an abundance of water.

Water lilies also have such distinct markings and colors; several having deep bronzy red leaves, some green leaves with small brown spots, others heavily splashed with large spots, some marked on top, others on under side, while a few are marked both above and below.

And perhaps it will interest some to know that water lily seed planted last August has now developed fine blooming plants. The trial has proven very interesting. Of course some are not worth saving, but others are so good we shall plant more soon, especially since the gorgeous Blue Triumph is now showing seed pods. The rare Mrs. Richmond is also now seeding. This is uncommon in hardy lilies and particularly for this lady, as she seldom even produces a new off-shoot from the root.

Bertha M. Thomas.

DUSTING ROSES

By L. J. Meyer,
Fellow, American Rose Society Fellowship in Plant Pathology

There are several reasons why dusting for the control of diseases and insect pests commends itself to the rose grower: The method is simple and rapid; the substitution of air for water as the carrier of the chemicals eliminates much labor and dirt; dusters are less complicated and give less trouble than sprayers. However, these advantages are secondary to two factors of vital concern. These are (1) adequate control and (2) the elimination of discoloration of the foliage. With the discovery that sulphur dust is as effective as bordeaux mixture and lime-sulphur solution in the control of black-spot and mildew, and causes less discoloration, dusting became attractive to the rose-grower. The development of dusts colored green is a recent improvement.

Since dusting offers considerable advantage over spraying in control, sightliness and convenience, it seems worth while to suggest the proper method of applying fungicides dry.

Apparatus. The simplest type of hand duster is a container with perforations through which the dust is shaken. Burlap and cheesecloth bags are sometimes used. The dust is placed in the bag and shaken over the plant, or beaten out with a stick. Sifters and bags are not recommended since both are poor substitutes for dusters of greater efficiency which can be had at relatively low cost. Neither sifter nor bag enables the operator to direct the flow of dust.

Proprietary dusters are reasonably satisfactory, although further improvements are needed. The bellows type is less used than the plunger type. In both, the dust contained in a hopper is fed into the air-stream, generated either by the bellows or the plunger, and blown out as a fine cloud. The action is discontinuous in the bellows type and the majority of the plunger types, but some of the latter, by being "double acting," give an almost continuous flow. These apparatus are satisfactory for the grower with a dozen or two plants.

Dusters of the crank type are desirous for plantings too large to be dusted conveniently with the smaller type. Several good machines are on the market. The dust is fed into the continuous air-stream by a mechanism positive in action which permits regulation to control the flow of material. These dusters are usually carried by a strap over the shoulder. One hand turns the crank and the other directs the discharge.

Materials. Only materials especially prepared for use as dusts are effective. They should be fine enough to pass through a 300-mesh sieve, and mixed with some "fluffer," such as talc, lime, etc., to make them flow well. Sulphur, lead arsenate, and nicotine impregnated into lime are available as dusts. Sulphur will effectively control black-spot and mildew; lead arsenate is a stomach poison for chewing insects; and nicotine will kill such sucking insects as aphids or lice. A mixture of 90 parts sulphur and 10 parts arsenate of lead is most commonly used on roses. Many growers systematically dust throughout the season with the 90-10 mixture, and keep a small quantity of nicotine dust on hand to apply when lice appear. Nicotine is less effective when mixed with sulphur. It should be kept in air-tight containers and purchased in small quantities to insure its being fresh. The nicotine content of the dust should be at least 2 per cent.

When to dust. To control black-spot, mildew, and chewing insects, apply the dusts either early in the morning (before 7 o'clock) or late in the afternoon. At those times the air is quiet and the dust cloud will envelop the plants for several minutes. Less dust will be needed and better coverage obtained. **Moisture on the leaves is not essential since the fine particles of the dusts sift down among the hairs on the leaves and are held there in ample quantity.** It is unnecessary to apply so much dust that it is particularly noticeable. Frequent light dustings are preferred to less frequent and heavy dosages.

Dust BEFORE rain periods. It is during the time the leaf is wet that the disease-spores germinate and infection takes place. Any material so soluble in water as to be washed off during rainy periods will not protect plants from black-spot. In addition to replenishing materials dissipated by rain, frequent applications are needed to protect new growth. Dust oftener when the plants are growing rapidly and when the leaves are frequently wet by dew; and try to get an application on the plants before each rain.

Nicotine dust for aphid control should be applied during the warmest period of the day, i. e., around noon, and is most efficient when the temperature is above 70° Fahr. Select a bright, warm day when the air is quiet.

Operation of the duster. In dusting, the discharge- pipe should be directed into the slight air-drift that usually prevails during the early morning and evening hours. The dust will thus be blown through and past the plant and slowly carried back and down, giving complete coverage and protection. By directing the discharge-pipe up under the leaves, the lower as well as the upper surfaces will receive a light coating. A little practice will enable the operator to determine the best adjustment of the control regulating the flow, the proper speed of the crank, and the distance to hold the discharge-pipe from the plant.—L. J. Meyer in "1930 American Rose Annual."

MOUNTAIN WILD FLOWERS

Under the pines of our higher mountains at 5000 to 6000 feet, Palomar, Cuyamacas, Lagunas, a brilliant red beard tongue, **Penstemon Labrosus** tolerates the heat of summer on the dry slopes. Unlike other penstemons it has a smooth palate to the throat of the flower. So attractive a native flower was one of the first of its kind to be planted in culture under the name of "Scarlet Penstemon," many years ago. Refreshing to see a name that is not spic-span new.—F. G. W.

INTERESTING THINGS IN LOWER CALIFORNIA

By Howard E. Gates

When one enters Lower California, Mexico, on a cactus hunting expedition, he soon finds himself in a maze of Chinese puzzles. The species are very variable, the descriptions often incomplete, and the described localities poorly located.

On Todos Santos Bay near Ensenada, one should find the red flowered Echinocerous pacificus. There are plenty of yellow-flowered maritimus, but the pacificus always seems to be in hiding. I have never seen one or met anyone who has. It's the same story with Echinocereus mamillatus, which is said to grow on the hills near Mulege. The best Britton & Rose does on Cochemeia setispinus is to locate it somewhere in a circle forty miles across.

Along the coast from Cape Colnett, southward there is a small Ferocactus, my numbers 24 and 44, which does not appear to have a place on the list of recognized Ferocactus, unless it be F. orcuttii. The type locality for F. orcuttii is given as "Palm Valley," which nobody seems to be able to locate. This little one along the coast doesn't quite measure up to the height of the described F. orcuttii and it has a yellow flower instead of a dull crimson flower. Yet when one considers Orcutt's remark that he considered it was just a luxurious development of Ferocactus viridescens, it appears that this is probably the one he was talking about. In the same locality is an abundance of F. viridescens, but their growth is usually quite distinct. To increase the puzzle, one occasionally runs across a specimen similar to No. 24, except it has hooked spines and a deep rose pink or red flower. This is in my collection simply as No. 23.

Passing inland from Rosario, at the 30th Parallel, a really striking Ferocactus is encountered. It appears very much as a variation of the well known F. acanthodes, yet is usually more slender and keeps a good red color in the spines after the plant grows large. The tallest plant I have seen reached between eight and nine feet. It doesn't fit any description by Britton & Rose. There are reports that the Germans are carrying this as Californicus. For the time being it appears best to carry this as No. 22.

Until less than two years ago it was impossible for a plant hunter to travel the length of the Peninsula except by mule, and only one expedition did that. It took them nearly a year to go one way. In places they had to travel very hurriedly on account of the lack of feed and water. Many other botanists have landed at various points working the immediate vicin-

ity. Sometimes their reports are only fragmentary as they did not observe the plants in a complete life cycle. Many of their discoveries were published in bulletins and books that have been long forgotten.

An interesting example of this has just come to light. Last year on the coast at the very tip of the Peninsula I found a Lemaireocereus that could not be placed. This year I found many more of them and became convinced it was not touched upon in Britton & Rose's work. Two gentleman who made a hurried trip to San Jose del Cabo this year, uncovered it and were so firmly convinced it was a new species, that they were going to write it up at once, though they had not seen the fruit or flower. At our Society's show in Pasadena, a gentleman who had been rummaging in a second hand book store, appeared with Vol. II of Orcutt's "American Plants," published in San Diego, about twentyfive years ago. In it was a large paragraph, quoting an article published by Mrs. Brandegee about 1895, describing, locating and naming this plant as Cereus littoralis.

The same book upset my own complacency. Last year near Comondu and on the Magdalena Plain, I found what the natives call "Ciribe," and felt sure I had it identified as Opuntia tesajo, which Britton & Rose call a little known species. Orcutt's book gives enough additional light on the subject to make it appear that my No. 95 is not O. tesajo, but that this name should belong to No. 120, from San Fernando and Punta Prieta, which I had been carrying as "Opuntia ramosissima type." If that proves to be correct what is No. 95? This last is a slender, branched, weak opuntia clambering up through small shrubs. It has plenty of sharp spines, an abundance of short, loosely jointed branches growing from the woody main stems. Early in the year it is covered with small red fruit, reminding one of O. frutescens from Arizona.

Still speaking of Opuntias, on Magdalena Island, there appears to be an entirely undescribed cylindrical Opuntia, sparsely scattered over Mesa Santa Maria. When I first saw it I thought it was a strange Cereus. Then I got stuck and was suspicious as it hung on. Later I found the woody skeleton and a few heads bearing green fruit of the Opuntia type. The branches of this are larger than most "chollas," heavily spined, and of a purplish or plum colored general appearance, very much on the order of Cochemeia halei, which is found nearby. A suggestion has been made by one who saw the pictures, that this might be a Grusonia. No Grusonia is reported from Lower California. Plants were sent to the Blakesley Botanic Garden of the Santa Barbara Natural History Museum as No. 131. Specimens of most of my collections may be seen at this garden.

In the same canyon that Mr. Baxter found Neomammillaria phitauiana, is another cylindrical Opuntia, that is not cylindrical, as the branches are all flattened. It grows in shady places, is quite tender and only a couple of feet high. Of the plants I imported, all I have left is the number 137. Uncle Sam's vacuum fumigator did away with the rest of this species.

In visiting in this neighborhood I wish to confirm Mr. Baxter's observation of Neomammillaria phitauiana, except he located it a little too far away from Todos Santos and I wish to goodness he would give his things a name we ordinary folks can spell and pronounce.

Going on up from this canyon, thanks to a clue from Mr. Baxter, I found a new flat jointed Opuntia growing away up among the pines and oaks of a little valley lying near the summit of the Sierra Laguna. It is the robust "Tuna Morada" which thrives in the high altitude. One only has to hang on to a mule's ears for about seven hours to get up and when it comes to climbing down, most of us pull leather for several miles. The joints of the Tuna morada are rather large, orbicular, thick and freely spined with strong white spines that stick out straight. The fruit is medium size of a reddish purple color with large irregular seeds.

I've some other Opuntias staked out under number, but I suppose some day most of them will be fitted into recognized descriptions.

Then there is the Pereskiopsis west of La Paz, that I wrote about in the September Journal. I found it again this year, but only in the same small spot. It is No. 110.—(Journal of the Cactus and Succulent Society of America.)

GROWING BEGONIAS FROM SEED

Eva Kenworthy Gray

First, get your seed, it should be as fresh as possible as I find it germinates better. The fibrous seed can be planted most any time, though of course, spring is best. The tuberous and Rex should be planted the following spring after it ripens. I prefer the crockery seed pans to the wooden boxes, at least seeds have done better with me when planted in the crockery pans. I always scald the soil and pan before planting any kind of seed as it kills all germs, worm eggs and weeds and gives the seedlings a much better chance to grow. It also kills the fungus or mossy growth which always starts when the soil is kept moist for any length of time. I take a pinch of the seed on the end of a pen knife and mix it with a spoonful of dry sand and scatter evenly over the surface. The soil formula has been so often

given that it would be superfluous for me to repeat it here. But one thing I do is to have a thin layer of sand on top before I scatter the seed as this seems to help keep the top moist without causing the small seedlings to dampen off as they might do in the clear soil. With the pans too, one can water from the bottom by setting the pan in a basin of water until it shows moist on the surface and one doesn't wash out the small seedlings which do not at first have a root hold into the soil. Most of the fibrous seed will come true, but the hybrids that have been crossed with other varieties will more often vary and there will be a throw-back into the original variety. For instance, I planted seed of a Palmata which had Rex blood in the cross and the resultant seedlings all showed the Rex characteristics. So far in their development not a single seedling was like the parent and I began to doubt that I had rightly labeled them. But the leaf and stem are smooth and the growth is similar to the Palmata. By the way, the Palmata is said to be known in France as Faureana, named after their Pres. Faure, but as we have always known it as Palmata I guess we will continue to call it that on this side.

Some varieties of seed germinate easily, especially the coarser seed, while the very fine dust-like seeds take longer to start and are of slower growth. Of those easily grown from seed are: Richardsonii, Scotch Luxuriance, all Semperflorens, Franconis, in fact the succulent types. The recumbent varieties are rather difficult to get started, everything has to be just right and they must be pollenized either by hand or planted close to a similar variety. Some are good pollen bearers, while others do not seem to have any pollen though they will mature a seed pod—like the Odorata rosea, I have never been able to detect a bit of pollen on the male flower, and when I've planted seed none would germinate. I tried a flat of them last year and only semperflorens variety showed up, so if any seed did germinate it was because the pollen of a semperflorens had drifted onto the flower. Of all the many seedlings I have grown from Odorata only one has shown a flower any thing like O. Rosea. Even at that, the foliage and manner of growth resembled the semperflorens.

Occasionally one does get an entirely new form and it is a thrilling event. Viaude has given more seedlings with a decided departure from the parent than any begonia I've ever tried. It being itself a cross between two different varieties lends itself in producing a varied progeny.

In France hybridizers have used Incarnata for their crosses and have produced plants of wide variance. It is said that this was the seed parent of Arthur Mallett and several others with vivid colored leaves. It is also the seed parent of Madam Fanny Giron that we have known for some time here in the west as the Red Pollard. The other seedling of Incarnata somewhat similar to Arthur Mallett, with thicker leaf and rather steel colored is known in the east as Margaritacea, and is a cross between B. Cocciana and a bronzy leaf variety of Incarnata. It was produced by Vetch & Son of London in 1894.

Madam Fannie Giron was produced by M. Schmidt in France in 1875. It is a cross between Incarnata and an unknown bulbous species which accounts for its delicateness. It is supposed to be an annual and is started from cuttings directly after blooming as the old plants seem to go back after the first year.

From Kew Gardens in London came some seed of Englerii sent over to this country to a member of the Begonia club who has kindly distributed it and I am glad to report that they are showing up in fine shape.

One grower in the east had a plant which he believed to be Englerii and which greatly resembled Paul Bruant, but on being visited by the lady who had seen the Englerii in Kew she declared it was not the same at all.

When it comes right down to knowing your begonias and studying up on their origination and from what species the cross was made and by whom, you begin to realize how little you know and how much there is to learn. It is a study of a lifetime and as we don't begin our schooling until late in life we feel like we are loth to go and leave all the beauty and interest this class of flowers calls forth.

(Continued from Page 7)

Barbara where thousands of trees were planted in 1865 as a trial of available species. It was on this basis that the Southern Pacific Railroad began its commercial enterprises.

Eucalyptus tereticornis is considered the most reliable species for the desert lands. It is much larger and freer in habit than E. rostrata though similar in features of which it is by some authors considered only a form. A few species have been re-inforced for ornamental planting by cross-breeding with intermediate and higher hardy mountain species to make them frost resistant.

Eucalyptus citriodora, lemon scented gum, and Eucalyptus ficifolia, Tasmanian red gum, do not perfect as well outside of the San Diego area. The crimson flowered Tasmanian red gum has been introduced upon the market in Australia and New Zealand before it was sent to the United States. This accounts in a measure for its variability in color as a result of the breaking up of seedlings into crimson, carmine, rose, or flame colored forms of flowers.

—F. G. W.

Patronize the Garden Advertisers.

TRUMPET CREEPERS

By Fidella G. Woodcock
San Diego Natural History Museum

Summer vines from now on until late in the year will be represented by the various Trumpet Flower Vines sent in from the semi-tropical countries. Some of them are very rich and showy both in foliage and highly colored long trumpet-like blooms hanging in profusion over walls and chimneys, often making beautiful old backyard fences a joy to behold, or a trimming for the garage or gateway.

The colors are in yellow, red, or red and yellow, pink and white with dark center. The pods are sometimes long and graceful.

The leaves are pinnate, meaning feathery, growing with small leaflets opposite on a single shorter stem. Often there is an end leaf, sometimes the compound leaf is even, without the end leaf—either odd or even.

In Trumpet Creepers the toothed leaves run into long slender points similar to the fronds of a fern. These acuminate points at the end of the leaf add greatly to the fine outlines of the vine giving the graceful effect.

These vines belong to the group of plants called bignoniads of which the Catalpa is the strongest growing tree of American origin. The Desert Willow is one of our native bignoniads. Its flowers are of the most delicate pink color known among these viny shrubs and is rare—its home is in the area of the Salton Sea of the Colorado Desert.

Tecoma stans from the West Indies and South America attains the tree size to 30 feet and has a well developed trunk. The flowers are of a golden yellow and it is known as yellow elder.

Tecoma stans var. velutina from Guatemala is known as the velvet bignonia. There is a highly ornamental tree of it on the lower side of Julian Avenue, and it becomes more attractive every year. It should be more widely known and planted for it is striking in appearance and seeds easily, blooming early in spring.

Our list of bignoniads planted in gardens includes:

Shrubs or vines: Bignonia, Pandorea, Tecomaria, Phaedranthus, Pyrostegia, Campsis, Campsidium.

Trees: Catalpa, Jacaranda, Chilopsis, Incarvillea, Spathodea, Tecoma.

AMERICAN ALPINES IN THE GARDEN

By Anderson McCully

(The Macmillan Co., 1931, $2.50.)

Those who enjoy trying to make our native plants at home in their gardens will appreciate the contagious enthusiasm for them shown by the author of this volume and the many useful cultural notes scattered through its pages. As Mrs. McCully sets forth in her introduction her primary purpose is to bring a rich but neglected material to the attention of garden makers, and there is no doubt that she will accomplish much toward this commendable end. It is particularly pleasant to find her treatment of such groups as the lilies, wayward beauties that they are, especially detailed and full. The grouping of many of the plants in easy reference lists according to their cultural likes and possibilities is another very practical feature. Our need for a good book of this type is great, and it makes us the more regretful in the present instance praise must be tempered with a certain amount of quite definite criticism. The title is especially unfortunate, since a very large proportion of the plants treated is far indeed from possible classification as alpine. True alpines include few if (strictly) any of such groups as the cacti, Mariposa tulips, brodiaeas, Irises, Romneyas, Fremontias, Ceanothi and others, but referred to simply as western natives they can surely have no less appeal to those who would grow them. Surely too we should expect of

RAINFORD FLOWER SHOP

Cut Flowers
Floral Designs

1115 Fourth Street *San Diego*

our authors freedom from such inaccuracies as that in Southern California agaves and aloes are "prominent on all the mountain sides"! And just why do no plants than Lewisias (of all to be chosen) "typify more fully the illusive charm of the desert" (emphasis ours)?

Fortunately botanical generic names are usually given a capital initial, but in some instances the publishers have elected to follow the careless and wholly confusing modern fad of printing proper names with small initials. This becomes especially unfortunate in the discussion of the important question of plant zonation, as a transition zone and the Transition Zone may very easily refer to quite different and improperly associated concepts.

—S. S. B.

IRIS CULTURE

San Diego Iris fans will remember that I wrote an article a year ago expressing my belief that we need to treat Iris in a different manner than the methods used in other localities. Consequently I prepared my soil with a rich dressing of sheep fertilizer, planted the rhizomes well under the surface and have kept them well watered. The results have been amazing. Beginning early in March there have been constant waves of bloom and judging from the new shoots popping up I should have blooms for the August flower show. A friend was complaining about her Iris refusing to bloom and I expressed my surprise that mine bloomed so luxuriously and she explained it by saying that it was because they were my beloved flower. Perhaps she is right and because I thrill over a brown knotted rhizome or fan of gray green leaves and adore the delicate blossom and gloat over a full seed pod is the reason my garden is full of blossoms. Be it as it may let me add this advice to those of you who are planning to grow Iris—give them plenty of love. They may be divided any time after one is sure they are through blooming. The third year is best for digging up the whole clump but one can carefully remove sections earlier without disturbing the main plant. Try planting in hills this year with the ridges running so that water can seep slowly around the roots. Allow plenty of room for expansion; there should be at least three feet between each plant. Be careful not to allow other plants to crowd too closely but such annuals as larkspur, calliopsis and zinnias can be planted between rows and help to make a protection against the drying out of the soil too quickly. Feed the bone meal later in the fall and do not forget to use plenty of barn yard fertilizer also and you will be sure to have blooms for the next spring show.—C. B. T.

ANOTHER ONE OF SAN DIEGO'S BEAUTY SPOTS

The home of Geo. R. Harrison in Mission Hills is the center of a 2-acre plot and it is so wisely landscaped that from this center one can overlook almost every nook and corner, shrub and tree, although many of the trees are large—even the lily pool though far distant.

He is an ardent lover of trees and has a close second in the efficient caretaker, Harold Dankworth. Sixteen varieties of Palms (some very rare Chinese ones), English holly, Bauhinia, Rhododendrons, Camelias, Gardenias, and many choice specimens of plant life. One immense Torrey Pine is undoubtedly the largest one known here.

There is a Sage Garden of 7 varieties, and 30 kinds of Conifers; among the latter is also a very rare Chinese one. The Conifers and Sage serve as a natural home for the bevies of quail, and they run riot here in great numbers. Every known variety of Ceanothus, and a very large rose garden with almost all the choice and new varieties.

Then along the 200 front footage on Torrence Street is an almost perfect hedge of Eugneia Myrtifolia 8 feet high. Running parallel with this and just separated by a walk is the Chorizema, each a fine contrast to the other. The tropical fruits are all there—cherimoya, lime sapota, Natal plum, several varieties of papayas, all with fruit.

Overlooking the enclosing wall at one point, one looks through a planting of Washingtonia Palms at Point Loma in the distance, and the blue Pacific in between. Travelers of Italy often remark the resemblance to the scene from Monaco overlooking the Mediterranean, and knowing that the gardener is a traveler of the old world, we secretly suspicion he has created this viewpoint with malicious aforethought and intent.

Bertha M. Thomas.

SOUTHERN CALIFORNIA GARDENING

A New Book for Amateur Gardeners
By Edna B. Trask

Describes in simple language, month by month, What to Plant, When to Plant and How to Plant.

Cloth Bound, $1.25 per copy

On Sale at
HUTTON'S BOOK STORE,
SAN DIEGO

Or by the Author

1202 North Holliston Avenue,
Pasadena, California

GASTROLEA

Reprinted from The Journal of The Cactus and Succulent Society of America. Vol. II, No. 3, pages 303-307, September 1930.

In two previous articles we have dealt with the more commonly cultivated species of Aloe and Gasteria. It becomes necessary to say a few words about a number of plants grown in our local collections not properly assignable to either of the above-mentioned genera. As a matter of fact, they are hybrids between these genera, or bigeneric hybrids, as they are commonly termed. Formerly it was considered impossible to cross distinct genera; and even true species were at one time thought incapable of producing fertile offspring. This notion of course has had to be abandoned long ago; and today we know of numerous bigeneric or even trigeneric hybrids. Such forms can hardly be placed into either parent-genus, partaking as they do more or less equally of the characters of both. It has hence become customary to coin new generic designations for such plants, usually by combining part of their parents' names, illustrated by such combinations as Brassocattleya, a well-known group of orchid-hybrids, or Mahoberberis, the latter a cross of Mahonia and Berberis.

Some doubt has been expressed about the propriety of according these garden forms the same taxonomic status as natural species and genera. Since hybrids, whether natural or man-made, are not necessarily recognizable as such off-hand, no sound reason seems to exist for treating these forms differently, just because they are hybrids. In so far as they are commonly grown and widely sold by commercial growers, they are certainly in need of names; and in any case the customary prefix x should be quite sufficient to distinguish them.

Hybridization is a most interesting subject full of unfathomed possibilities, potentially valuable to both science and horticulture. Its role in giving rise to new forms, species if you please, even in nature, is probably much more important than is generally realized. Only extensive field studies, careful breeding experiments, and perhaps cytological investigations may ultimately enable us to evaluate this factor correctly. At any rate, we feel fully justified in putting on record the hybrids discussed below, and assigning them to a new genus.

A majority of these hybrids on record, and all that are cultivated locally, were derived from either Aloe variegata or A. aristata; and a word about these seed parents may not be out of order. Aloe variegata is a native of the South African Karroo, a region extremely rich in various kinds of Succulents. There its tenacity of life has earned it the Africander name of Kannidood, meaning literally "can not die." We can testify to the justice of this appellation by citing from our own experience. Some years ago Dr. Pole-Evans of Pretoria sent us a plant of this by mail, which on arrival had to be returned to Washington for formal entry. After traveling bare-rooted all the way from Pretoria to Cape Town, to London, to New York, to San Francisco, to Washington, and once more to San Francisco, the poor plant ultimately arrived here, still very much alive. Another name sometimes applied to this is "Partridge-breast Aloe," and has reference to the checkered leaves. Under favorable conditions this species spreads rapidly by underground runners which furnish a ready means of increase and account for its relative abundance in gardens. Seed is produced so rarely in cultivation as to lead to perhaps somewhat rash conclusions of self-sterility, but several instances of seed-production have come to the writer's notice where circumstances seem to preclude access of foreign pollen. The explanation may be found in the fact that most species of Aloe are proterandrous, i. e., their anthers mature and discharge the pollen before the stigma becomes receptive, a fact that makes emasculation unnecessary when hybridizing.

Seedlings grown from South African seed are usually quite uniform, but those from locally produced seed frequently contain variants clearly showing the influences of foreign pollen. Surely between the bees and humming-birds things are getting somewhat mixed in our gardens. A batch of seedlings grown by Mr. Orpet from seed received from La Mortola also contained a number of plants clearly intermediate between Aloe and Gasteria.

(To be continued in the August number)

401 West Washington

DEWEY KELLY

Hillcrest 4555

"GROWING PLANTS"

Palms, Trees, Shrubs, Vines,
Leaf-mould, Top Soil, Fertilizer

DUNNING-MILLAR, Inc.

SEEDS - BIRDS - SUPPLIES - ACCESSORIES

INSECTICIDES

See us for Insecticides and Spray Equipment. A Complete Line.

909 6th St. **PHONE, FRANKLIN 5387** **624 E St.**

McKELVEY'S

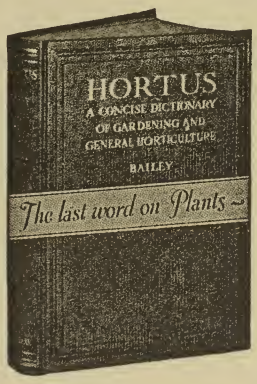
ELITE PRINTING CO.

Commercial Printing

Phone Main 3793 - 851-853 Second St., San Diego

The last word on plants is—

HORTUS



A Concise Dictionary of Gardening, General Horticulture and Cultivated Plants in North America.

By L. H. and E. Z. Bailey

A dictionary in the true sense of the word, with essential information on all of the 22,000 genera, species and varieties of ornamental, fruit, and vegetable plants in cultivation in North America today.

You only need to know common plant names to use it for these are used throughout and cross-referenced to botanical terms.

Authorities say:

"Such a book has a thousand uses." "I do not see how the plantsman can do without it."

Just Published

652 pages; 6¾x10 inches; 35 illus.; fabrikoid; $10.00 postpaid from—

SAN DIEGO FLORAL ASS'N.

P. O. Box 323,
SAN DIEGO, CALIF.

Beautiful Reproductions of Old Patterns in

Hand Wrought Silver and Pewter

by Poter Blanchard

are regularly kept in stock, and specially designed pieces can be made without extra charge.

A Gift from Taylor's --is a Gift Indeed--

"Agents Since 1928"

Harold A. Taylor

1154 Orange Ave. Hotel del Coronado
CORONADO

June and July planting time: Palms of any sort; Phoenix Roebelini fits anywhere and is so choice. Cocus Plumosa, any size, any price. Bougainvillias, in particular. Bignonias Venusta and Cherere. Hibiscus and any tropical plants.

MISS K. O. SESSIONS
2590 GRAND AVENUE,
PACIFIC BEACH

Phones:
MAIN 5652—Pacific Beach 607

Do You Grow Roses?

Here is the latest practical information

HOW TO GROW ROSES

By Pyle, McFarland and Stevens

Every step in growing roses successfully is made clear in this new "how-to-do-it" book. It answers every possible question and gives you the cream of three famous growers' lifetime experience.

The 138 illustrations are the most complete and beautiful in any rose book. 80 of them show actual growing operations; 45 others show leading varieties in full natural colors.

$2.00 *from*

San Diego Floral Association
P. O. Box 323 San Diego, Calif.